

### **REMARKS**

The present Amendment is in response to the Examiner's Office Action mailed October 12, 2006. Claim 10 is cancelled, claims 1, 2, 3, 12, 14, 26, and 27 are amended, and claim 29 has been added. Claims 1-9 and 11-29 are now pending in view of the above amendments.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. In addition, Applicants request that the Examiner carefully review any references discussed below to ensure that Applicants understanding and discussion of the references, if any, is consistent with the Examiner's understanding.

#### **I. Amended Drawings**

The Examiner objects to the drawings on the grounds that the figures do not show the "center point of the imaginary square" recited in claim 12. Applicants submit new Figure 2 which includes reference numeral 306 pointing to the location of the center of an imaginary square defined by the position of the lasers and the lenses which is aligned with an axis of the optical waveguide 300. To further help illustrate, an imaginary square defined by the lenses has also been added and designated by reference number 305. Also submitted is a redlined copy of Figure 2 showing the change being made. Claim 10 and the specification have also been amended to clarify that shown in Figure 2 being that the optical axis of the optical waveguide 300 is aligned with the center point 306.

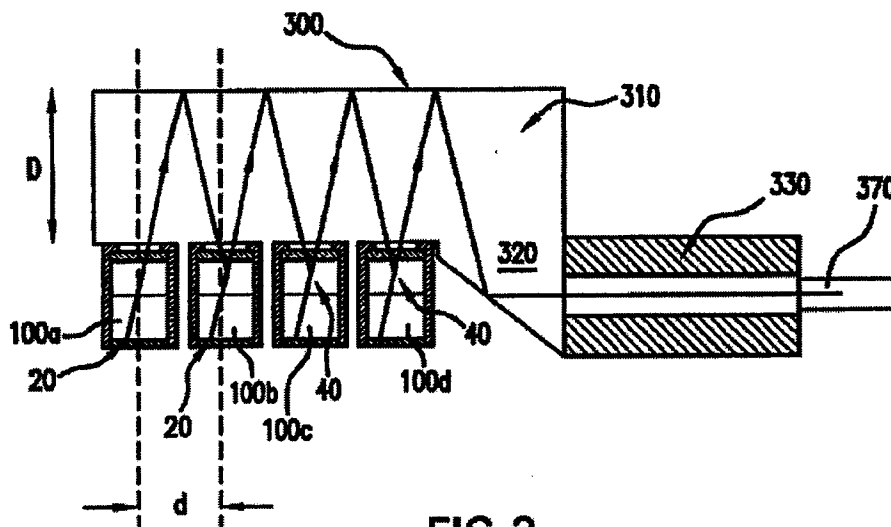
## II. PRIOR ART REJECTIONS

### A. Rejection Under 35 U.S.C. §102(e)

The Examiner rejects claims 1-11, 13-25, 27, and 28 under 35 U.S.C. § 102(b) as being anticipated by *Capewell et al* (United States Patent No. 6,769,816). The Examiner rejects claims 1-13 and 25 under 35 U.S.C. § 102(b) as being anticipated by *Trezza* (United States Patent No. 6,731,665). Because neither *Capewell* nor *Trezza* teach each and every element of the rejected claims, Applicants respectfully traverse the rejections in view of the following remarks.

A claim is anticipated under 35 U.S.C. § 102 (e) only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Further, the identical invention must be shown in as complete detail as is contained in the claim. Finally, the elements must be arranged as required by the claim. *Manual of Patent Examining Procedure ("MPEP")* § 2131.

*Capewell* teaches an integrated zig-zag transceiver module for multiplexing and demultiplexing several wavelengths. See Abstract and Figures 3 and 5. Each element 100 in Figures 1 and 3 are TO cans which contain a VCSEL 20. Col. 3, lines 49-53. Each VCSEL 20 is mounted off-axis and/or tilted slightly on a TO header 10. A lens 30 within each TO can 100 is designed to collimate a beam 65 from the VCSEL 20 and direct the beam 65 off-axis toward the exit aperture 55 of the TO can. Col. 3, lines 55-62. Figures 4 and 5 illustrate a similar embodiment in a reverse process of receiving signals within several TO cans 200. Col. 5, lines 47-55.



**FIG. 3**

On page 3 of the Office Action, the Examiner identifies elements 100a-100d as electrooptical components, elements 310 and 370 as optical waveguides, elements 30 and 330 as at least one lens, and surfaces 300 and 320 as reflective surfaces of supporting element 310.

Claim 1, as amended, recites the elements, “at least two electrooptical components supported by a top surface of a carrier”, “the optical waveguide is disposed above the top surface of the carrier”, and “an optical axis of emergent light from each of the at least one lens intersects an end of the optical waveguide or another lens at the same point” in combination with each and every other element of claim 1. (Emphasis added).

Similarly, claim 27 includes the element, “wherein an optical axis of emergent light from each of the at least one lens directly intersects an end of the optical waveguide or another lens at the same point.”

First, elements 100a-100d do not appear to be supported by a carrier. Even if it were argued that elements 100a-100d were supported by a carrier, element 370 would not be considered to be disposed above such a carrier. Further, even if 310 is construed as an optical waveguide, an optical axis of emergent light from each of the at least one lenses 330 and 30 does not intersect an end of 310 or another lens at the same point. Thus, the Applicant respectfully requests that the rejection of claims 1 and 27 be withdrawn at least for the reason that *Capewell* does not teach each and every element of claims 1 and 27.

Further, claim 14 sets forth the element, “the supporting element and the reflectively coated outer side or sides being arranged in such a way that they reflect the light emitted by the

laser or by the lasers about 90 degrees onto the respectively assigned lens” in combination with each and every other element of claim 14. Neither surface 300 nor 320 reflect emitted light by about 90 degrees due to the zig-zag configuration. Rather, surface 300 reflects the emitted light at an angle greater than 90 degrees but less than 180 degrees such that it is combined with the next signal. Surface 320 also reflects the signal at an angle greater than 90 degrees. Thus, due to the zig-zag configuration, *Capewell* does not teach each and every element of claim 14.

Claims 2-11, 13, 15-25, and 28 depend from claims 1, 14, or 27. As such, the Applicant respectfully requests that the rejection of claims 2-11, 13, 15-25, and 28 be withdrawn at least for the same reasons as claims 1, 14, or 27.

In addition, the Applicant notes that the Examiner has essentially disregarded claims 2-11, 13, 15-25, and 28 stating only that “claims 2-11, 13, 15-25, and 28...are clearly suggested by *Capewell* in columns 3-8 with respect to Figures 1, 3, 5, 7, and/or 8.” In effect citing to almost all of *Capewell*.

“In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.” 37 CFR 1.104. If the origin of teachings set forth for the proposed combinations exists in *Capewell* then the Applicants request that this origin be set forth by the Patent Office as suggested by MPEP 2144.08 III which states, “[w]here applicable, the finding should clearly articulate which portions of the reference support any rejection.” (Emphasis added).

In addition, the Applicants traverse the assertion that each of claims 2-11, 13, 15-25, and 28 are taught by *Capewell*. For example, regarding claims 5, 6, and 7 a carrier has not been shown by the Examiner as discussed above. Regarding claim 12 it has not been shown that *Capewell* discloses four lasers that lie on corner points of a virtual or imaginary square or an optical waveguide substantially aligned with a center point of the imaginary square. Regarding claim 15, *Capewell* clearly discloses that elements 100 and 200 are TO cans but does not disclose that the electrooptical module itself is accommodated within a TO package. Nor has the Examiner pointed to a printed circuit board as set forth in claims 16-19. Thus, a *prima facie* case

of anticipation has not been set forth because the elements of claims 2-11, 13, 15-25 have not been addressed.

*Trezza* discloses a pump laser configured to couple individual lasers in an array to an individual optical fiber. Abstract. The optical amplifiers disclosed in *Trezza* add energy to signals but do not actually transfer signals. See col. 1, lines 33-49; col. 5, lines 10-14; col. 5, lines 25-28. Thus, *Trezza* does not relate to, nor does *Trezza* disclose, a wavelength division multiplexer.

Claim 1 requires that "the electrooptical module comprises a WDM module." Since *Trezza* does not teach a WDM module in combination with each and every other element of claim 1 the Applicants respectfully request that the rejection of claim 1 be withdrawn. At least for the same reasons, the Applicant respectfully requests that the Examiner withdraw the rejection of claims 2-13 and 25.

The Applicant further notes that the elements of claims 2-13 and 25 have not been addressed with the specificity required by 37 CFR 1.104. As such, the Applicant submits that a *prima facie* case of anticipation has not been set forth for claims 2-13 and 25 for this reason as well.

#### **B. Rejection Under 35 U.S.C. § 103**

The Examiner rejects claim 26 under 35 U.S.C. § 103 as being unpatentable over *Capewell* in view of *Oikawa* (U.S. Patent No. 5,386,488). Claim 26 depends from claim 1. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As such, the Applicants respectfully request that the rejection of claim 26 be withdrawn at least for the same reasons as claim 1.

#### **III. NEW CLAIM**

Claim 29 has been added and depends from claim 1. Therefore, claim 29 is believed to be allowable at least for the same reasons as claim 1.

**CONCLUSION**

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 12<sup>th</sup> day of March, 2007.

Respectfully submitted,

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